

WHAT IS CLAIMED IS:

1. An image display apparatus comprising:  
first and second line memories which alternately store input video signals for every scanning line;  
5 a reading section which reads the video signals stored in the first and second line memories at a predetermined speed;  
a calculation section which calculates new video signals from the video signals read from the first and  
10 second line memories by the reading section;  
a selection section which selectively outputs video signals of one scanning line among the video signals read from the first and second line memories and the new video signals calculated by the calculation  
15 section;  
a video output control section which controls the selection section to select and output the video signals read from the first and second line memories when the input video signals are based on an interlace system, and to select and output the signals read from the first and second line memories and the new video signals calculated by the calculation section when the input video signals are based on a progressive scan system;  
20  
25 a display section which displays a video corresponding to the video signals selected by the selection section in accordance with the progressive

scan system; and

a display control section which controls the display section so that odd and even fields of the video signals selected by the selection section can be displayed by being deviated from each other by a predetermined number of scanning lines.

2. The image display apparatus according to claim 1, wherein the display section is a liquid crystal display apparatus which has 1080 or more effective scanning lines.

10 3. The image display apparatus according to claim 1, wherein the display section is a plasma display apparatus which has 1080 or more effective scanning lines.

15 4. An image display apparatus comprising:  
first and second line memories which alternately store input video signals for every scanning line;  
a reading section which reads the video signals stored in the first and second line memories at a predetermined speed;

20 a calculation section which calculates new video signals from the video signals read from the first and second line memories by the reading section;

25 a selection section which selectively outputs video signals of one scanning line among the video signals read from the first and second line memories, the new video signals calculated by the calculation

section, and the input video signals;

a video output control section which controls the selection section to select and output the input video signals when the input video signals are based on an  
5 interlace system, and to select and output the signals read from the first and second line memories and the new video signals calculated by the calculation section when the input video signals are based on a progressive scan system;

10 a display section which displays a video corresponding to the video signal selected by the selection section; and

15 a display control section which controls the display section so that odd and even fields of the video signal selected by the selection section can be displayed by being deviated from each other by one scanning line or more, and that the video signals of each scanning line selected by the selection section can be displayed on a plurality of scanning lines of  
20 the display section simultaneously in accordance with the number of one-frame scanning lines of the input video signals when the input video signals are based on the interlace system.

5. The image display apparatus according to  
25 claim 4, wherein the display section is a liquid crystal display apparatus which has 1080 or more effective scanning lines.

6. The image display apparatus according to  
claim 4, wherein the display section is a plasma  
display apparatus which has 1080 or more effective  
scanning lines.

- 5        7. An image display apparatus comprising:  
            an input terminal to which selected input video  
            signals are supplied;  
            first and second line memories which alternately  
            store the input video signals supplied to the input  
10        terminal for every scanning line;  
            a reading section which reads the video signals  
            stored in the first and second line memories at a speed  
            higher by n times (n is an integer of 2 or higher) than  
            that during storing;  
15        a calculation section which sequentially adds  
            first and second video signals read from the first and  
            second line memories at a predetermined ratio to  
            calculate third video signals;  
            a selection section to which the first, second and  
20        third video signals are entered, and which selectively  
            outputs one of the video signals in accordance with a  
            type of the input video signal;  
            a video output control section which controls the  
            selection section to alternately select and output the  
25        video signals read from the first and second line  
            memories by n times when the input video signals are  
            based on an interlace system, and to alternately select

the first and second video signals and to arrange the third video signal therebetween when the input video signals are based on a progressive scan system;

5       a display section which displays a video corresponding to the video signals selected by the selection section in accordance with the progressive scan system; and

10      a display control section which controls the display section so that odd and even fields of the video signals selected by the selection section can be displayed with the fields deviated from each other by  $n/2$  scanning lines.

8. A scanning line converting and displaying method comprising:

15      alternately storing input video signals in first and second line memories for every scanning line;

reading the video signals stored in the first and second line memories at a predetermined speed;

20      adding the video signals read from the first memory and the video signals read from the second line memory to generate a new video signal;

25      sequentially selecting and outputting the video signals read from the first and second line memories when the input video signals are based on an interlace system, and sequentially selecting and outputting the video signals read from the first and second line memories and the new video signals when the input video

signals are based on a progressive scan system; and  
controlling a display apparatus so that odd and  
even fields of the video signals can be displayed with  
the fields deviated from each other by a predetermined  
5 number of scanning lines.